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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,997	12/19/2001	Chris R. Franklin		1881

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EXAMINER

TSAI, SHENG JEN

ART UNIT PAPER NUMBER

2186

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/033,997		FRANKLIN ET AL.	
	Examiner		Art Unit	
	Sheng-Jen Tsai		2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03/09/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 5 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3,4 and 6-12 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is taken in response to Applicants' Amendment and Remarks filed on March 9, 2006 regarding application 10/033,997 filed on December 19, 2001.

2. Claims 2 and 5 have been cancelled.

Claims 1, 9, and 13 have been amended.

Claims 1, 3-4 and 6-13 are pending in the application under consideration.

3. ***Response to Amendments and Remarks***

Applicants' amendments and remarks have been fully and carefully considered with examiner's responses detailed below.

Applicant has amended independent claims 1 and 9 to include the new limitation of "distributing the old data among the set of data disk drives and at least one new disk drive while mapping new data to the spare space of the first array."

This newly amended limitation is not taught by the prior art (Jacobson et al., US 5,615,352) previously relied on for the rejections of these claims. Further search of prior art on this particular limitation does not lead to any reference teaching this limitation.

Therefore, independent claims 1 and 9 and those claims dependent from them now become allowable.

4. ***Duplicate Claims, Objection***

Claim 13 is objected under 37 CFR 1.75 as being a substantial duplicate of claim 9. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after

allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Allowable Subject Matter

5. Claims 1, 3-4 and 6-12 are allowed.

6. ***Related Prior Art of Record***

The following list of prior art is considered to be pertinent to applicant's invention, but not relied upon for claim analysis conducted above.

- Jacobson et al., (US 5,615,352), "Methods for Adding Storage Disks to a Hierarchic Disk Array while Maintaining Data Availability."
- Choy et al., (US 5,758,118), "Methods and Data Storage Devices for RAID Expansion by On-Line Addition of New DASDs."
- Stallmo et al., (US 5,657,468), "Method and Apparatus for Improving Performance in a Redundant Array of Independent Disks."
- Nelson et al., (US 5,666,512), "Disk array Having Hot Spare Resources and methods for Using hot Spare Resources to Store user Data."
- Lyons et al., (US 6,304,941), "Method and Apparatus for Reducing Processor operations when Adding a new Drive to a RAID-6 Drive Group."
- King et al., (US 6,530,004), "Efficient Fault-Tolerant Preservation of Data Integrity During Dynamic RAID Data Migration."
- Burkes et al., (US 5,542,065), "Method for Using Non-Contiguously Reserved Storage Space for Data Migration in a Redundant Hierarchic Data Storage System."

Conclusion

7. Claims 1, 3-4 and 6-12 are allowed.

Claim 13 is objected under 37 CFR 1.75 as being a substantial duplicate of claim

9.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheng-Jen Tsai whose telephone number is 571-272-4244. The examiner can normally be reached on 8:30 - 5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2186

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sheng-Jen Tsai
Examiner
Art Unit 2186

March 23, 2006


PIERRE BATAILLE
PRIMARY EXAMINER
3/29/06